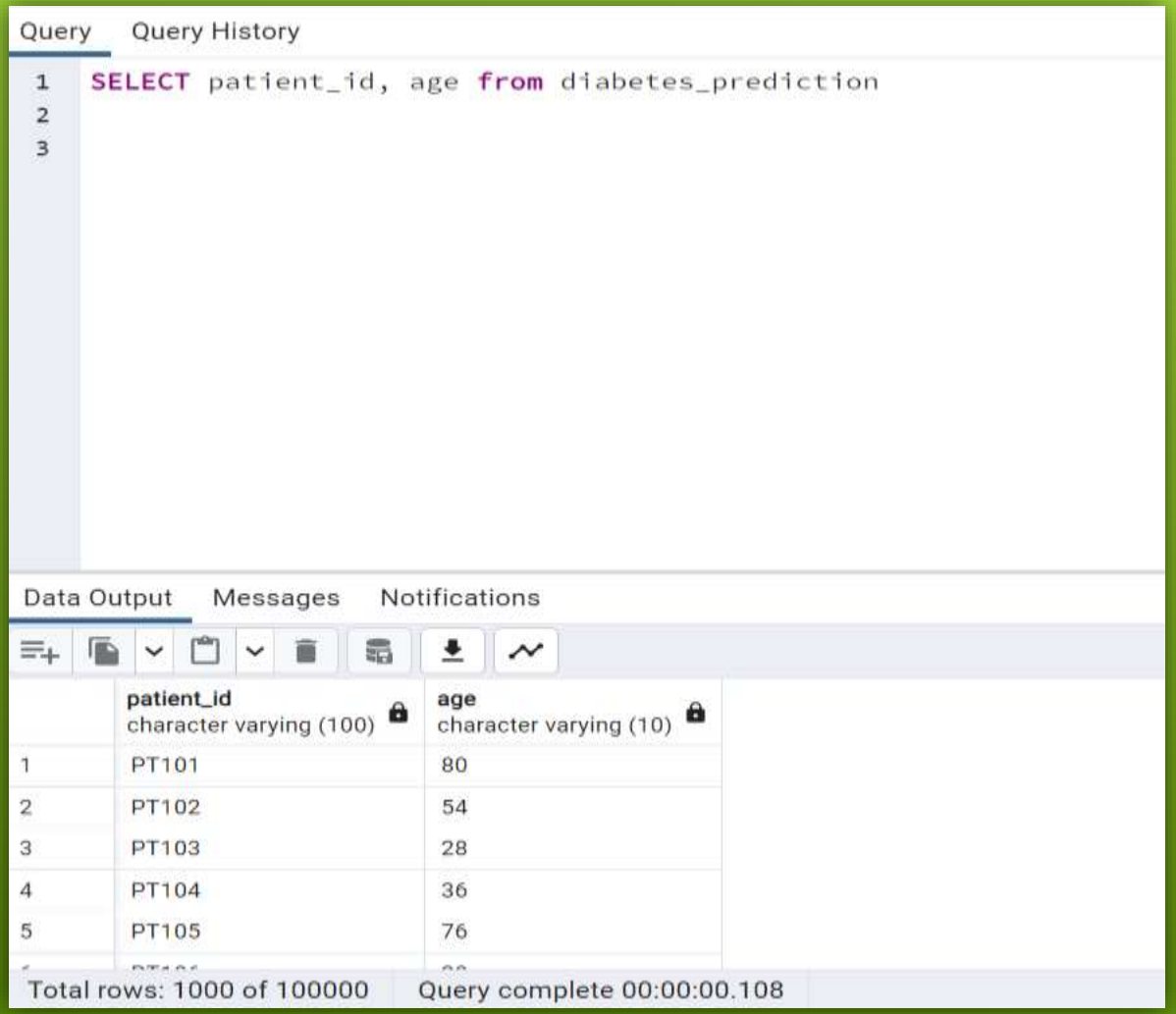
TASK- 3

DIABETES PREDICTION ANALYSIS

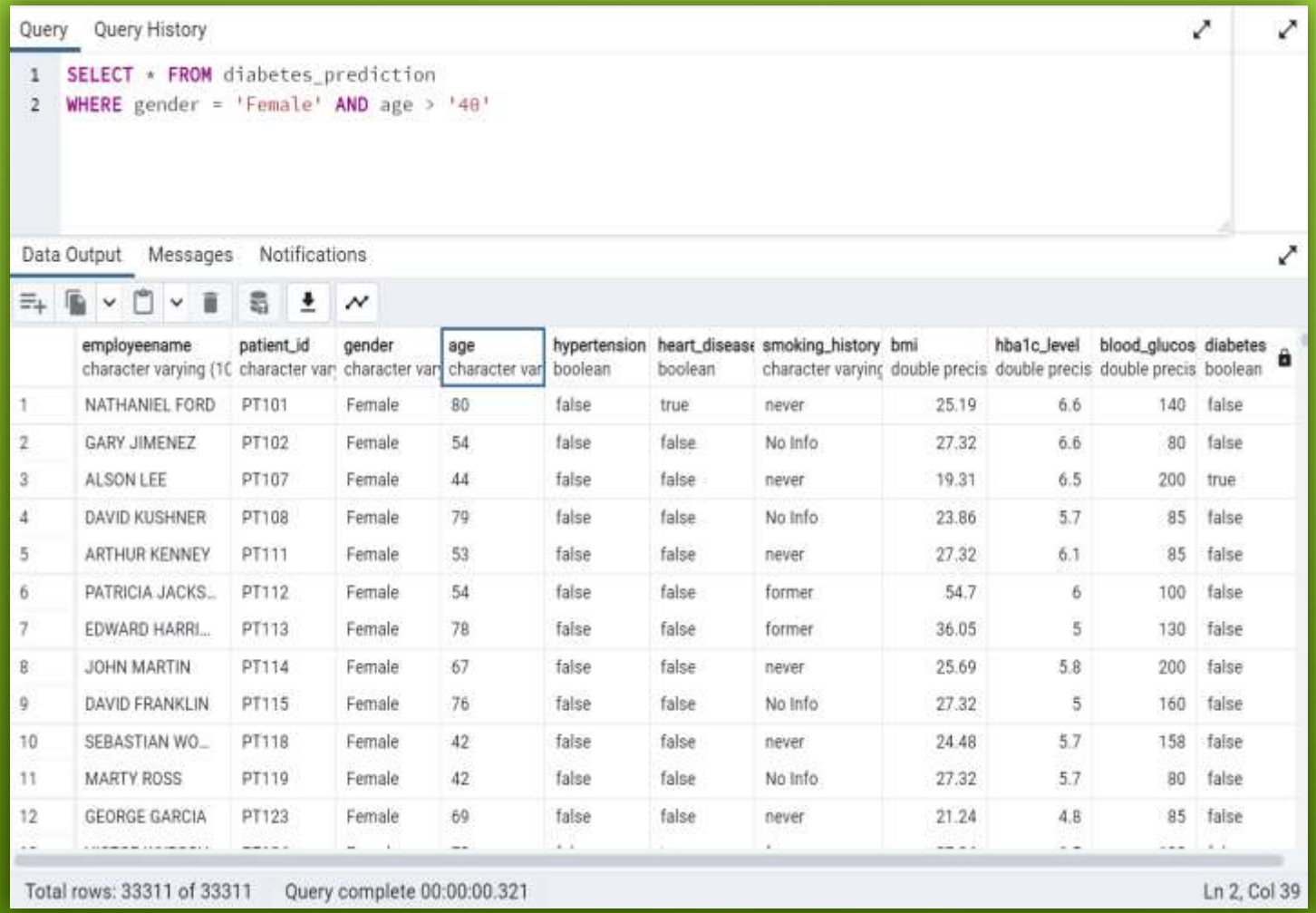
Retrieve the Patient_id and ages of all patients.

ANS-



Select all female patients who are older than 40.

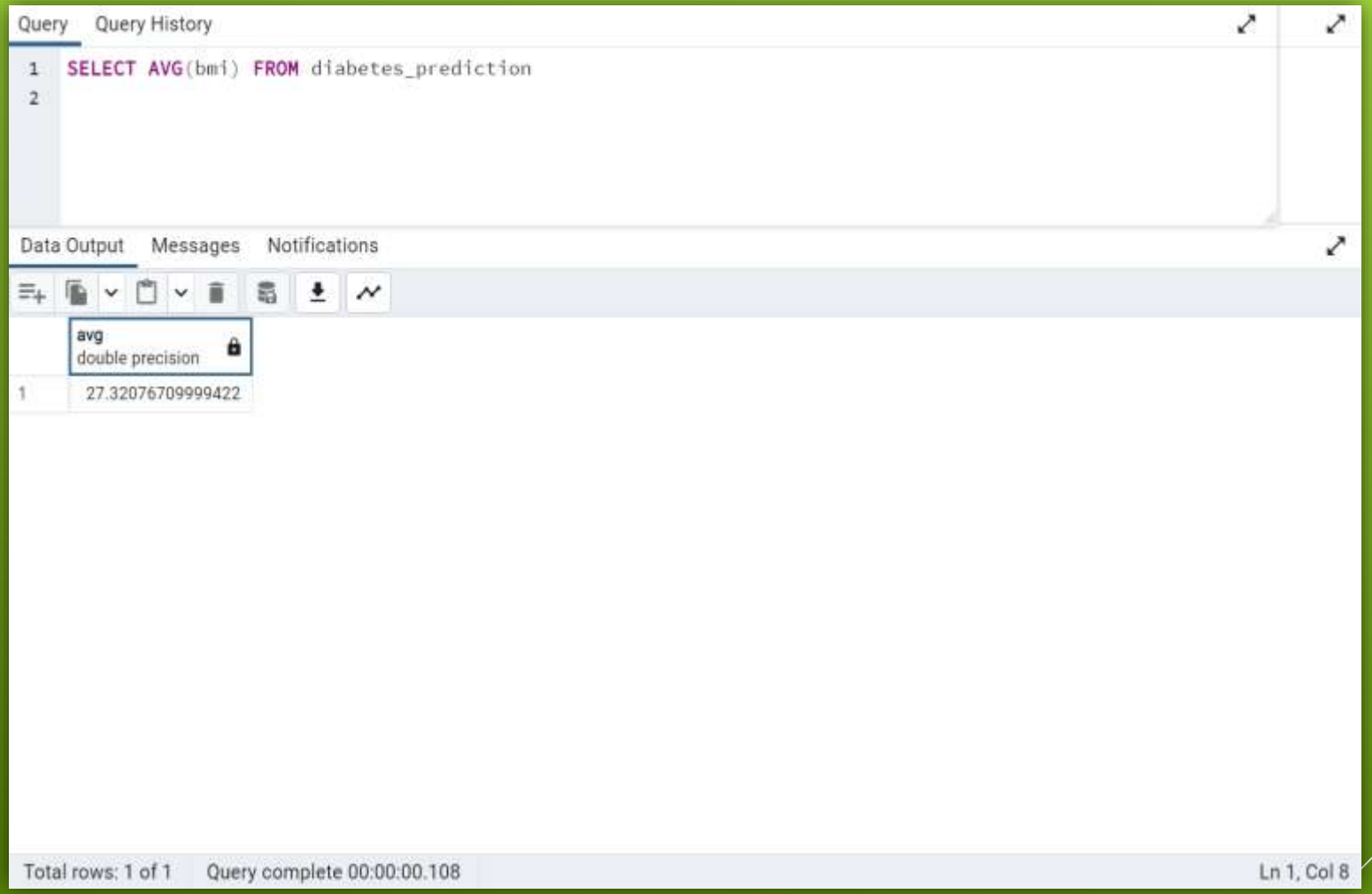
ANS-



	employeename character varying (10	patient_id character var	gender character var	age character var	hypertension boolean	heart_disease boolean	smoking_history character varying	bmi double precis	hba1c_level double precis	blood_glucos double precis	diabetes boolean
1	NATHANIEL FORD	PT101	Female	80	false	true	never	25.19	6.6	140	false
2	GARY JIMENEZ	PT102	Female	54	false	false	No Info	27.32	6.6	80	false
3	ALSON LEE	PT107	Female	44	false	false	never	19.31	6.5	200	true
4	DAVID KUSHNER	PT108	Female	79	false	false	No Info	23.86	5.7	85	false
5	ARTHUR KENNEY	PT111	Female	53	false	false	never	27.32	6.1	85	false
6	PATRICIA JACKS...	PT112	Female	54	false	false	former	54.7	6	100	false
7	EDWARD HARRI...	PT113	Female	78	false	false	former	36.05	5	130	false
8	JOHN MARTIN	PT114	Female	67	false	false	never	25.69	5.8	200	false
9	DAVID FRANKLIN	PT115	Female	76	false	false	No Info	27.32	5	160	false
10	SEBASTIAN WO...	PT118	Female	42	false	false	never	24.48	5.7	158	false
11	MARTY ROSS	PT119	Female	42	false	false	No Info	27.32	5.7	80	false
12	GEORGE GARCIA	PT123	Female	69	false	false	never	21.24	4.8	85	false

Calculate the average BMI of patients.

ANS-



List patients in descending order of blood glucose levels.

ANS-

Query | Query History

```
1  SELECT employeename, patient_id, blood_glucose_level FROM diabetes_prediction
2  ORDER BY blood_glucose_level DESC
3
```

Data Output | Messages | Notifications

	employeename character varying (100)	patient_id character varying (100)	blood_glucose_level double precision
1	MAUNG SEIN HO	PT20947	300
2	JOHN SCOTT	PT5302	300
3	SHERMAN YU	PT6379	300
4	CINDY TOM	PT16618	300
5	MARY JEAN TANYAO	PT22390	300
6	ANDREW MOLINA	PT16657	300
7	Michael Browne	PT36433	300
8	Anabella Alfaro	PT47863	300
9	RON BASCONCILLO	PT28544	300
10	PETER FONG	PT28834	300
11	Jane Ma	PT47871	300
12	JOSEPH HEID	PT32704	300
13	KIMBERLEY DAVIS	PT25412	300

Total rows: 1000 of 100000 | Query complete 00:00:00.259 | Ln 3, Col 1

Find patients who have hypertension and diabetes.

ANS-

Query | Query History

```
1  SELECT employeename, patient_id, hypertension, diabetes FROM diabetes_prediction
2  WHERE hypertension = '1' AND diabetes = '1'
3
4
5
6
```

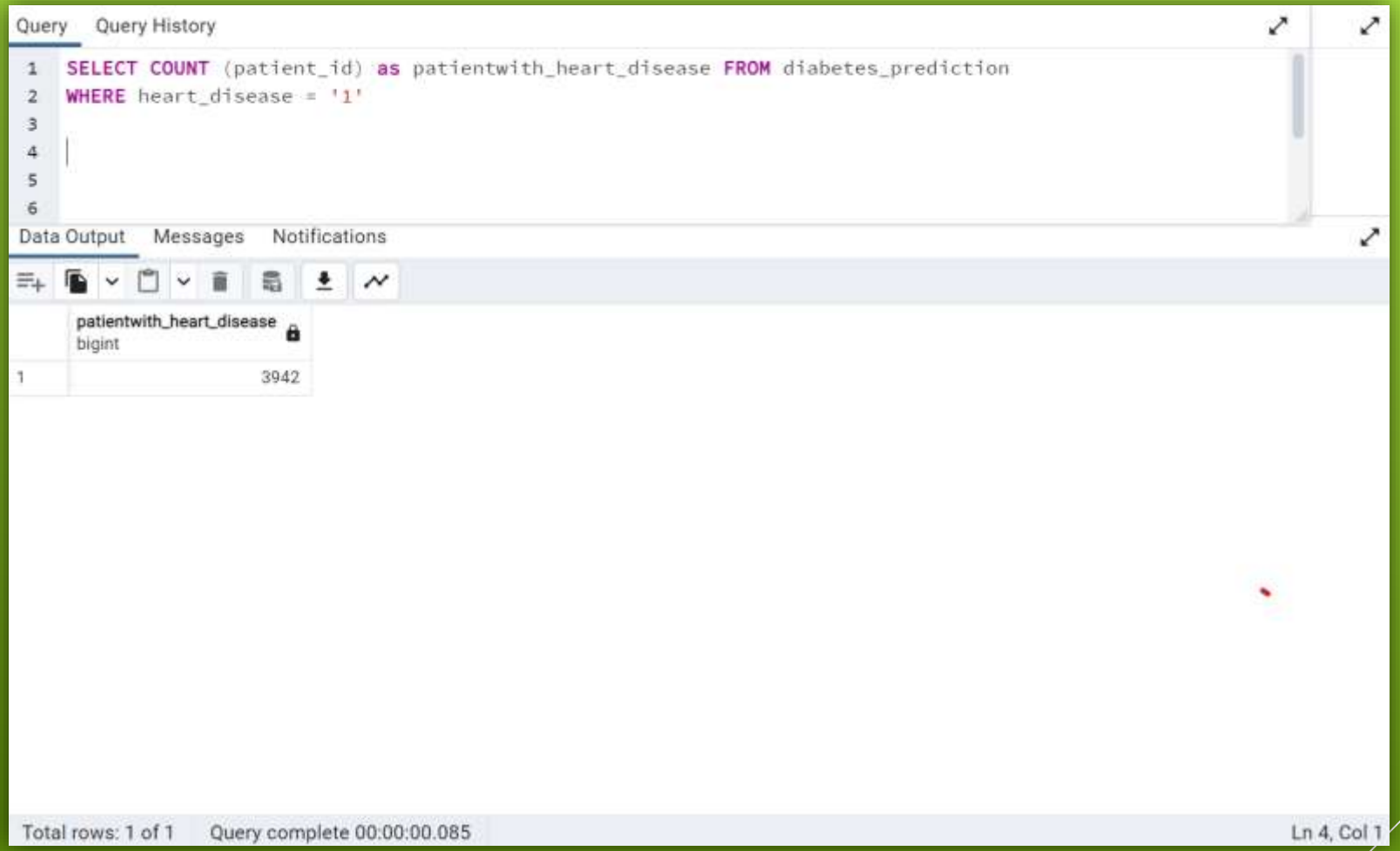
Data Output | Messages | Notifications

	employeename character varying (100)	patient_id character varying (100)	hypertension integer	diabetes integer
1	JONES WONG	PT139	1	1
2	PATRIC STEELE	PT205	1	1
3	ARTHUR STELLINI	PT343	1	1
4	CHAD LAW	PT355	1	1
5	CATHERINE JAMES	PT451	1	1
6	JOHN HART	PT565	1	1
7	JOHN BARKER	PT567	1	1
8	ROBERT BONNET	PT632	1	1
9	VITANI BENJAMIN	PT727	1	1
10	LANNIE ADELMAN	PT828	1	1
11	JOEL DELIZONNA	PT852	1	1
12	KAREN KUBICK	PT861	1	1
13	ANA GONZALEZ	PT983	1	1

Total rows: 1000 of 2088 Query complete 00:00:00.231 Ln 4, Col 1

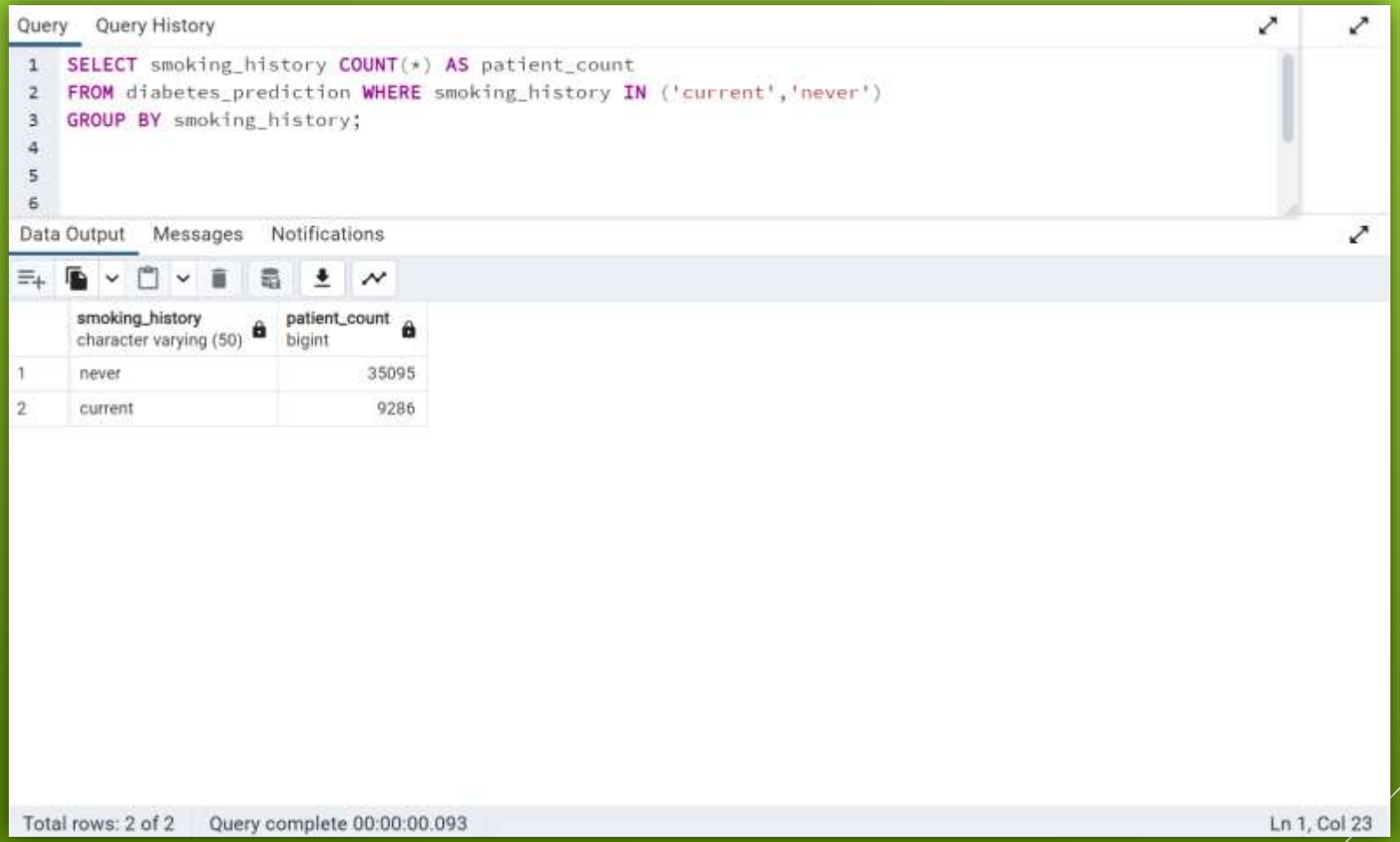
Determine the number of patients with heart disease.

ANS-



Group patients by smoking history and count how many smokers and nonsmokers there are.

ANS-



Retrieve the Patient_ids of patients who have a BMI greater than the average BMI.

ANS-

Query | Query History

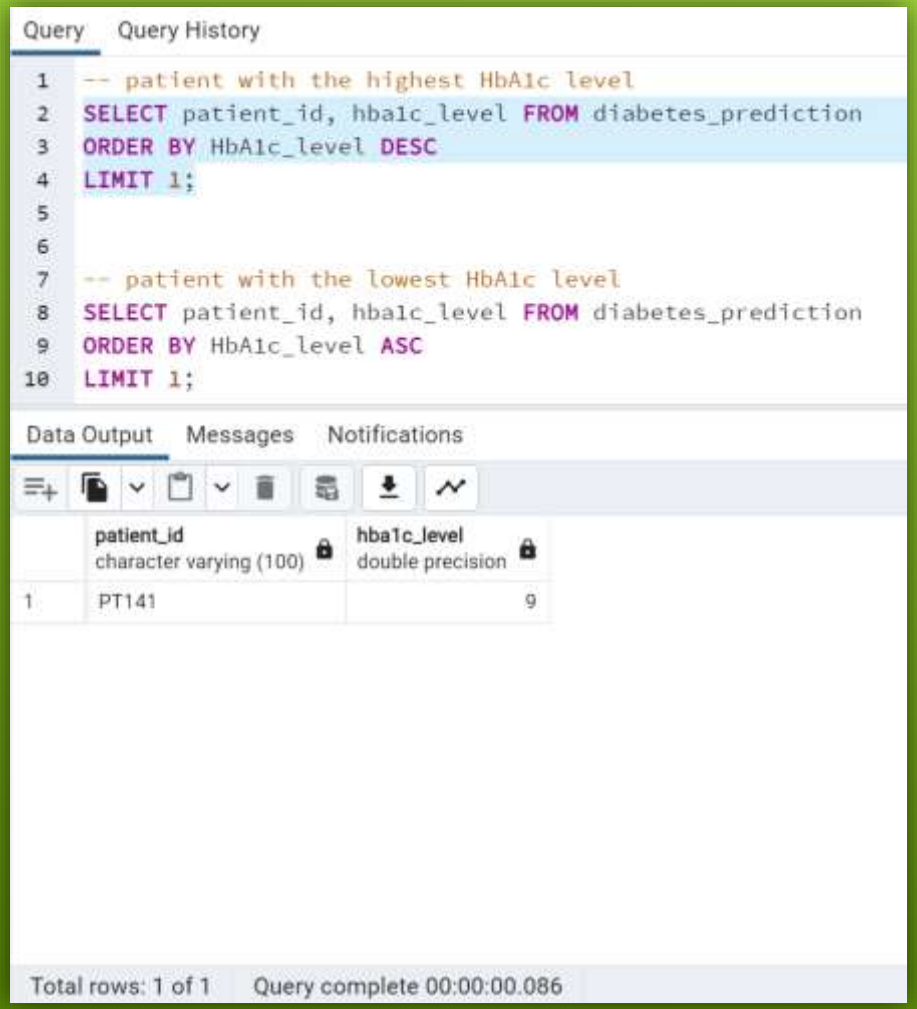
```
1  SELECT Patient_id
2  FROM diabetes_prediction
3  WHERE bmi > (select avg(bmi)from diabetes_prediction)
4
5
6
```

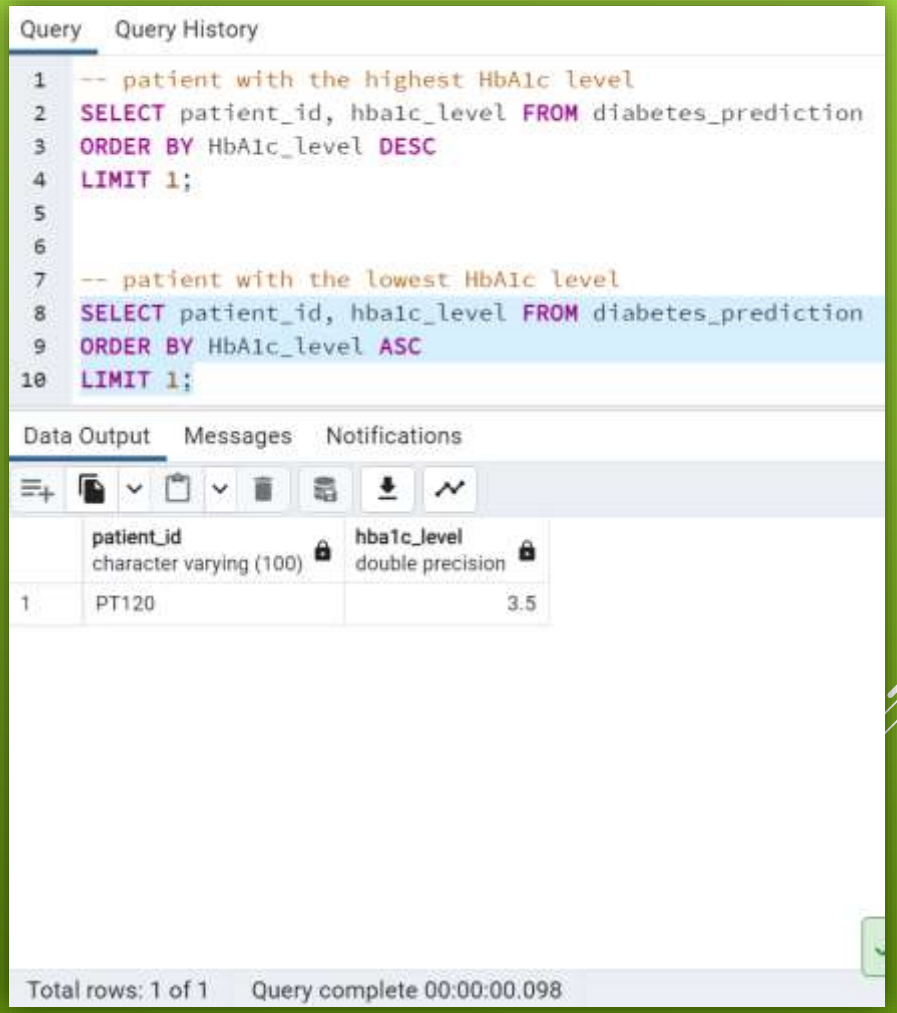
Data Output | Messages | Notifications

	patient_id character varying (100)
1	PT109
2	PT112
3	PT113
4	PT117
5	PT121
6	PT124
7	PT126
8	PT128
9	PT131
10	PT140
11	PT143
12	PT144
13	PT149

Total rows: 1000 of 33768 | Query complete 00:00:00.131 | Ln 5, Col 1

Find the patient with the highest HbA1c level and the patient with the lowest HbA1c level.





Rank patients by blood glucose level within each gender group.

ANS-

Query | Query History

```
1  SELECT patient_id,gender,blood_glucose_level,
2      RANK() OVER(PARTITION BY gender ORDER BY blood_glucose_level) AS Blood_glucose_levelRANK
3  FROM diabetes_prediction;
4
5
6
```

Data Output | Messages | Notifications

	patient_id character varying (100)	gender character varying (10)	blood_glucose_level double precision	blood_glucose_levelrank bigint
1	PT19978	Female	80	1
2	PT13302	Female	80	1
3	PT2580	Female	80	1
4	PT43598	Female	80	1
5	PT19069	Female	80	1
6	PT16796	Female	80	1
7	PT43594	Female	80	1
8	PT35160	Female	80	1
9	PT46495	Female	80	1

Total rows: 1000 of 100000 | Query complete 00:00:00.376 | Ln 5, Col 1

Update the smoking history of patients who are older than 50 to "Ex-smoker."

ANS-

Query | Query History

```
1  UPDATE diabetes_prediction
2  SET smoking_history = 'Ex-smoker'
3  WHERE age > 50
4
5  SELECT * FROM diabetes_prediction
6  WHERE age > 50
```

Data Output | Messages | Notifications

	employeename character varying (10(	patient_id character var	gender character var	age numeric	hypertension integer	heart_disease integer	smoking_history character varying (50)	bmi double precision	hba1c_level double precis
1	ERIC SOTO	PT5013	Male	52	1	0	Ex-smoker	25.79	
2	KYLE CURRY	PT7951	Male	54	0	0	Ex-smoker	27.32	
3	KEVIN LEE	PT13270	Male	52	0	0	Ex-smoker	27.32	
4	ANNA LAM	PT13427	Male	62	0	0	Ex-smoker	22.92	
5	ALLEN LEE	PT13690	Male	56	0	0	Ex-smoker	38.3	
6	VILOM TAM	PT14483	Male	73	0	0	Ex-smoker	28.55	
7	KYIN YI	PT14579	Female	76	0	0	Ex-smoker	23.82	
8	DOVE YU	PT16232	Female	61	0	0	Ex-smoker	33.25	
9	AIQUN XU	PT33264	Male	80	0	0	Ex-smoker	27.32	

Total rows: 34821 of 34821 | Query complete 00:00:00.105 | Ln 5, Col 1

Insert a new patient into the database with sample data.

ANS-

Query | Query History | Scratch Pad

```
1  INSERT INTO diabetes_prediction
2  VALUES('John Pollock', 'PT101', 'Male', 50, 0,0, 'Never', 25.22, 5.1, 151, 1)
3
4
5  SELECT * FROM diabetes_prediction
6  Where employeename = 'John Pollock'
```

Data Output | Messages | Notifications

	employeename character varying (100)	patient_id character varying (100)	gender character varying (10)	age numeric	hypertension integer	heart_disease integer	smoking_history character varying (50)	bmi double
1	John Pollock	PT101	Male	50	0	0	Never	

Total rows: 1 of 1 | Query complete 00:00:00.054 | Ln 5, Col 1

Delete all patients with heart disease from the database.

ANS-

Query | Query History

```
1
2  DELETE FROM diabetes_prediction
3  WHERE heart_disease = 1
4
5
6  SELECT * FROM diabetes_prediction
```

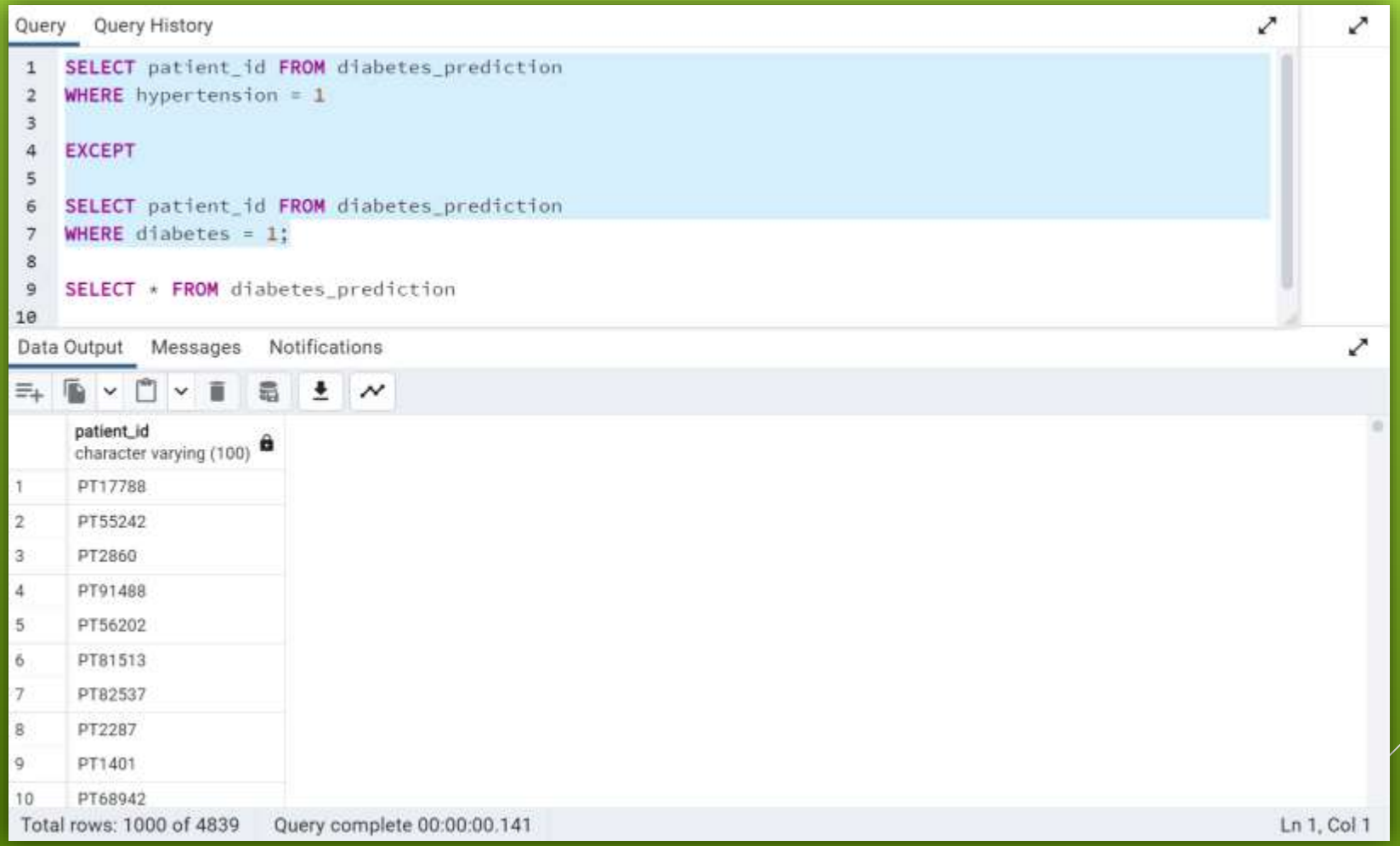
Data Output | Messages | Notifications

	employeename character varying (100)	patient_id character varying (100)	gender character varying (10)	age numeric	hypertension integer	heart_disease integer	smoking_history character varying (50)
1	John Pollock	PT102	Male	50	0	0	never
2	ALBERT PARDINI	PT103	Male	28	0	0	never
3	CHRISTOPHER CHONG	PT104	Female	36	0	0	current
4	DAVID SULLIVAN	PT106	Female	20	0	0	never
5	ALSON LEE	PT107	Female	44	0	0	never
6	MICHAEL MORRIS	PT109	Male	42	0	0	never
7	JOANNE HAYES-WHITE	PT110	Female	32	0	0	never
8	AMY HART	PT117	Male	15	0	0	never
9	SEBASTIAN WONG	PT118	Female	42	0	0	never
10	MARTY ROSS	PT119	Female	42	0	0	No Info
11	ELLEN MOFFATT	PT120	Male	37	0	0	ever
12	VENUS AZAR	PT121	Male	40	0	0	current

Total rows: 1000 of 96059 | Query complete 00:00:00.305 | Ln 6, Col 1

Find patients who have hypertension but not diabetes using the EXCEPT operator

ANS-



Define a unique constraint on the "patient_id" column to ensure its values are unique.

ANS-

Query | Query History

```
1  ALTER TABLE diabetes_prediction
2  ADD CONSTRAINT unique_patient_id
3  UNIQUE (patient_id)
4
5
6  SELECT * FROM diabetes_prediction
7
8
9
10
```

Data Output | Messages | Notifications

	employeename character varying (100)	patient_id character varying (100)	gender character varying (10)	age numeric	hypertension integer	heart_disease integer	smoking_history character varying (50)
1	ALBERT PARDINI	PT103	Male	28	0	0	never
2	CHRISTOPHER CHONG	PT104	Female	36	0	0	current
3	DAVID SULLIVAN	PT106	Female	20	0	0	never
4	ALSON LEE	PT107	Female	44	0	0	never
5	MICHAEL MORRIS	PT109	Male	42	0	0	never
6	JOANNE HAYES-WHITE	PT110	Female	32	0	0	never
7	AMY HART	PT117	Male	15	0	0	never
8	SEBASTIAN WONG	PT118	Female	42	0	0	never
9	MARTY ROSS	PT119	Female	42	0	0	No Info

Total rows: 1000 of 96058 | Query complete 00:00:00.334 | Ln 6, Col 1

Create a view that displays the Patient_ids, ages, and BMI of patients.

ANS-

Query | Query History

```
1  CREATE VIEW patient_bmi_view AS
2  SELECT patient_id, age, bmi FROM diabetes_prediction;
3
4
5
6  SELECT * FROM patient_bmi_view
7
8
9
10
```

Data Output | Messages | Notifications

	patient_id character varying (100)	age numeric	bmi double precision
1	PT103	28	27.32
2	PT104	36	23.45
3	PT106	20	27.32
4	PT107	44	19.31
5	PT109	42	33.64
6	PT110	32	27.32
7	PT117	15	30.36
8	PT118	42	24.48
9	PT119	42	27.32
10	PT120	37	25.72

Total rows: 1000 of 96058 | Query complete 00:00:00.152 | Ln 6, Col 1

THANK YOU

Atharva Patil